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Original Communications.

ON THE IMPORTANCE OF THE OPHTHALMOSCOPE AS AN AID TO GENERAL PRACTICE.

Read before the Boston Society for Medical Observation, by HASKET DERBY, M.D., Surgeon to the Massachusetts Charitable Eye and Ear Infirmary.

WHEN, in the year 1851, Prof. Helmholtz published his modest "description of an eye-mirror for examining the retina in the living eye," he claimed for the instrument the power of investigating the normal and diseased conditions of the interior of the organ of vision, and of estimating the state of its refraction. Little did he think that the ophthalmoscope would ultimately prove of assistance to the general physician as a means of diagnosis of some of the most important affections of the system at large. Within the twenty years, however, that have since elapsed, this has become strikingly manifest. It has been ascertained that changes in the nutrition and disorders in the function of the brain may be mirrored on the face of that prolongation of its substance to which we give the name of the optic nerve; that organic changes in the kidneys may betray themselves by characteristic infiltrations into the substance of the retina; that syphilitic alterations may take place in the fundus oculi; that the beats of the pulse may often be counted in the retinal veins and sometimes in the arteries; that cardiac diseases and changes in the vascular system may betray themselves to the eye of the observer; and that we may sometimes even go back a generation, and assert the probable blood-relationship of the patient's parents, our opinion being grounded on a glance at the distribution of pigment in the retina and choroid. These are some of the ways in which the ophthalmoscope may become an aid to diagnosis to the profession at large. It is to illustrate the importance of its study to all that I wish to call the attention of the Society to a very few selected cases. They will show that the method of its employment deserves to be, at least, as generally known as the use of the stethoscope or the tests applied to the examination of urine.

I was called, June 24th, 1863, to a neighboring city to see a lady seven and a half months advanced in pregnancy. She was 39 years of age, and had always enjoyed good health. A fortnight before, she had been attacked by a violent headache, which had since been followed by several similar ones. Three days after the first she noticed a blur before the left eye, and shortly afterwards one before the right. Vision had gradually fallen off till, at the time of my visit, she could hardly see her husband's features across the table, and made out ordinary print with very great difficulty.

On examination of the interior of the eye, the fundus presented an exquisite picture of the albuminuric retinitis, much resembling the drawing in Liebreich's Atlas which is herewith shown, save that no retinal apoplexies could be distinguished. The small, isolated spots, as well as the broad plaques, were of a glistening whiteness. On examination of the urine, albumen was found in large quantities.

The case being clearly dependent on the general condition, no treatment was required. The confinement occurred during the first week in July. August 28th, the albumen had almost disappeared from the urine, and was at times entirely absent. Vision improved very slowly. Oct. 2d, it amounted in each eye to one-fifth. In the right eye, the only trace of the disease consisted of a brilliant stellated patch, just over the macula lutea. In the left, the general appearances were slowly diminishing. The power of reading and writing now gradually returned. In the spring of 1864, vision amounted in each eye to two-fifths, and all the white spots in the left had disappeared. Gradual improvement continued, and in January, 1869, when I made my last examination, vision in the right eye was two-thirds and in the left one-half. No traces of the retinitis remained, but the surface of each optic nerve was whitish and the vessels somewhat attenuated.

Miss ——, aged 21, was sent me by Dr. Agnew, of New York, in January, 1866. She appeared well and strong, and had enjoyed good health up to the preceding summer, when she was said to have had an exhausting sickness, attended by convulsions, during which her vision was, for two days, much affected. She apparently recovered, and continued well till towards the middle of December, when a central mist suddenly appeared before the left eye. It was in the form of a defined cloud, and, while she could see around its edge, she could not penetrate its centre. It gradually increased, and three days later the right eye became similarly affected. The ophthalmoscope showed the left optic disc to be congested and its outlines a little blurry. About and over macula lutea, but not near nerve, were groups and clusters of bright white points. There were no plaques and no effusion of blood. The right eye was similarly affected, but to a less degree. Vision, right two-sevenths, left one-twenty-eighth. Shortly afterwards, I saw the case in consultation with Dr. J. C. White, who made an examination of the urine and found a small quantity of albumen and some epithelial cells, but no pus, blood corpuscles or casts. The heart was healthy. Complaint was made of occasional pains in the region of the kidneys, also of slight swelling of lower extremities.

Tinct. ferri mur. was ordered, and the usual cautions given. The prognosis was of course a discouraging one. By the middle of February, the white points had in some places coalesced so as to form plaques, and a few faint retinal apoplexies were visible. The change in the retina gradually approached the optic disc. It was, however, both remarkable and unusual to observe the improvement that took place in vision, which, April 14th, amounted in each eye to between one-half and one-third. Towards the last of April, however, this fell off, and Dr. White reported the uroxanthin in the urine increased, the urea diminished, and a considerable quantity of albumen. There were a large number of epithelial cells, and a few blood corpuscles and casts. June 7th, vision right was one-half, left two-fifths. The retinal appearances now slowly became more pronounced and vision decreased. I lost sight of the case, during an absence from the city, but Dr. White was called in, early in July, and found the patient confined to her bed, with tumultuous action of the heart, and the inflammatory affection of the lungs commonly accompanying Bright's disease. The appearances in the urine were more marked. The patient never rallied, and died the last of the month.

These two cases illustrate the disease, or, rather, symptom, known as albuminuric retinitis, which consists in a form of inflammation of the retina, accompanied by fatty degeneration of its structure. It is, in the great majority of cases, the cause of that failure of vision which has so long been known to be associated with Bright's disease, and which was formerly erroneously ascribed to uræmic poisoning. It is in the contracting or cirrhotic form of the disease that it may occur, and it occasionally accompanies the albuminuria of pregnancy. It rarely causes blindness, and may completely disappear. While it is not by any means one of the earliest symptoms of Bright's disease, it is often the first that excites attention and leads the patient to a knowledge of his general condition. Did time allow, I could cite case after case that has come under my immediate observation, where the ophthalmoscope has revealed the presence of an organic disease of the kidneys, the existence of which had not been previously suspected.

I wish to call attention to one other class of cases. A patient comes complaining of sudden failure of vision, for which there has been no apparent exciting cause. He sees a black ball before him, objects are shrouded in a bluish mist, he seems to be looking through a piece of glass with little patches of smoke upon it, and, if he looks at the bar of the window, it may appear broken and irregular. Externally the eyes are normal, but the ophthalmoscope reveals a greater or less number of retinal apoplexies, little drops or splashes of fresh blood, sometimes thickly sown over the entire fundus, sometimes seen only at one or two points, and occasionally uniting to form one or more large, bloody plaques. This is the so-called retinitis apoplectica. It is exceedingly frequent after the operation for glaucoma, the relief from pressure coming so suddenly as to cause a rupture of the coats of some vessels. It may also occur idiopathically. But its chief interest to the general physician lies in the fact that retinal apoplexy may be the result of a profound constitutional disturbance. Hence the prognosis is always a serious one. Organic disease of the heart, or an atheromatous condition of the arterial system are always to be suspected. This condition has been known to precede sudden death from cardiac affections, apoplexy and paralysis, and even attacks of mania.

Mrs. ——, 54 years of age, came to me

in January, 1863, for the purpose of ascertaining what glasses she ought to use. I made a careful examination of each eye and found the interior perfectly normal. Early in November, 1867, after writing a long letter, she was startled by a sudden difficulty in seeing, her vision seeming "to leave her." Shortly afterwards she discovered the left eye to be much better than the right. I saw her three weeks later, and found the vision of the right eye one-fifth. Numerous fine retinal apoplexies were scattered over the fundus, while a large, dark patch covered the macula lutea.

I saw her through the winter and spring. But vision never in the least improved. Last September she was attacked with hemiplegia of the right side of the body, from which she was, in December, when I last heard, slowly recovering.

In the two following cases the connection between the local and general symptoms is more immediate.

I was called into the country in July, 1863, to see a lady, 73 years of age, who had long been confined to her room with what was understood to be a disease of the heart. Her physician was not present, and my only information was obtained from the family. A few days before, she had made the discovery that her right eye was much inferior to the other, objects to it appearing dim and confused. On dilating the pupil, extensive effusions of blood into the substance of the retina were seen in every direction.

My prognosis was of course unfavorable. In September she died suddenly of heart disease, but I have never been able to get a definite account of the case.

In January, 1866, Rev. Dr. —— was sent me by his physician, Dr. Parsons, of Providence.

He had always been very near-sighted, but, with appropriate glasses, had never had any difficulty in using his eyes. A month previous, the sight of both eyes, but particularly of the right, began to grow dim. Owing to the failure of vision it was found impossible to accurately define the amount of his myopia; it was, however, very considerable. The vision of the right eye amounted to exactly half that of the left. The ophthalmoscope revealed in each eye the usual structural changes attendant on a high degree of myopia. In addition to these there was in the right a small fragment of membrane in the vitreous, and, scattered over the entire background, small, brownish, retinal apoplexies, evidently the cause of the failure of sight.

Dr. —— remained a short time in Boston, and then returned home. March 3d, Dr. Parsons wrote as follows: "His symptoms have developed themselves rapidly since I last wrote you, and it is evident he has valvular disease, apparently at the aortic orifice, with enlargement, principally dilatation of the heart. He is unable to get down stairs."

He died the same afternoon.

I have at present under observation five cases of retinal apoplexy, which I am carefully watching. They are all well advanced in life, and I have warned their physicians and their families what is to be apprehended.

The manipulation of the ophthalmoscope is by no means a matter of much difficulty. The eye may be more readily educated than the ear, and it is really easier to learn to get a clear view of the fundus oculi, than to appreciate the normal respiration on the sounds of the healthy heart. There are, it is true, subtle changes in the retina, choroid and optic nerve, which can be best judged of by one who is in the constant habit of regarding these structures; but such patent alterations as occur in albuminuric retinitis, or apoplexy of the retina, may be correctly estimated by any educated practitioner, who will expend a trifling amount of time and study on the instrument by which they are to be detected.

Selected Papers.

SEPTICÆMIC AND PYÆMIC FEVER.

By Prof. HUETER, of Kostock. A Résumé by Prof. PODRAZKI, of Vienna. Translated for the Boston Medical and Surgical Journal by J. C. WARREN, M.D.

A. SEPTICÆMIC FEVER.—*The septicæmic fevers are caused by the presence in the circulation of the products of putrefaction arising from masses of putrefying substances.*

The history of the septicæmic fevers reaches naturally as far back as the occurrence of injuries to the human body, and the decomposition of dead substances; but little mention has been made of this subject, however, by old writers. The author has reviewed in chronological order the combined literature from the time of Hippocrates and Celsus, and has made as a basis of his book the latest valuable works of Billroth, Roser and O. Weber, Lister and Binz.

The doctrine of septicæmia was first established by the numerous experiments of

Gaspard in 1822, and later by Stich and Panum; these, as well as the necessary preparatory study of the putrefactive process, are treated of by the author in the greatest detail. The interesting investigations of Pasteur on the cause and products of putrefaction are freely used.

The author describes in a few words, but very clearly, the series of changes which, according to these writers, occur during the process of decomposition. The oxygen diffused through the fluid is destroyed; small infusoria, of the species Monas crepusculum and Bacterium termo, are then developed, which invade the fluid in all directions. As they are Aerobia (organisms existing in the air), they must be killed by the destruction of the oxygen, and their bodies sink. The fluid would now remain in this condition were not ferment germs produced. By the presence of such ferment germs, however, Vibriones are developed in great numbers, and with their development the process of decomposition continues and foul gases are formed. By the action of the Vibriones in causing decomposition, the organic combinations of the fluid are separated into relatively more simple combinations, in which the Bacteria (or the fungi) introduce a further combustion process, so that they eventually separate into water, ammonia and carbonic acid. *Putrefaction is therefore caused by organic, living ferments which belong to the genus Vibrio.*

I pass over the numerous objections which were made to these theories by Pouchet, Joly and Musset. Hallier says that fungi (belonging to the Leptothrix group) and not Vibriones are the septogenous ferments.

Our knowledge of the chemical changes which occur in putrefaction is only scanty; the fact, also, that the chemists have not yet been able to study accurately the products of decomposition, particularly those of the albuminous substances, and that experiments could have been made with all the products of putrefaction, makes it still impossible at the present time to solve the important question, namely, what are really those products of the process of putrefaction which have a poisonous action on the organism. Gaspard has experimented with carbonic acid, hydrogen, sulphuretted hydrogen and ammonia (injections into the veins). Ammonia alone was found to have a deadly action.

Billroth experimented with sulphuretted hydrogen water, sulphide of carbon, sulphide of ammonium, concentrated watery solution of leucin, concentrated watery solution of carbonate of ammonia (injections into the subcutaneous cellular tissue). Panum and O. Weber have also made numerous experiments with the different products of putrefaction. The latter allows to sulphide of ammonium a possible participation in septicæmia.

In summing up the experiments of the above-named and many other authors, one arrives at the conclusion that the septic poison is probably of a complicated nature.

The post-mortem appearances in bodies of animals dying of septicæmia are:

1. Constant and marked disposition to rapid putrefaction; indeed, according to Hemmer, a certain kind of decomposition process begins even during life.

2. The blood is noticeable for its dark and imperfect coloration, the muscles have a deeper color, are more bluish red.

3. A very important pathological-anatomical peculiarity is that we do not find lung infarctions, abscesses and metastatic deposits in the lungs of animals infected with the septic poison, and in this peculiarity alone, then, exists a radical difference between septicæmia and pyæmia.

4. The most constant and marked symptom of septicæmia (in animals) is enteritis.

The question must now be asked whether that which we designate in man as septicæmia is really the same disease which we produce artificially in animals by injections of decomposing fluids? Hueter is of the opinion that there is a certain if not a complete resemblance in the two groups of symptoms.

Finally, cases occur of fatal septicæmia in which the post-mortem examination discloses nothing. In regard to the clinical etiology, the author makes a distinction between a heterochthonic and an autochthonic septicæmic fever, according as the substances from which the septic poison is formed is situated in the neighborhood of the patient or in his own body. The route which the septic poison takes in its absorption in heterochthonic septicæmic fever is very probably only the air passages and digestive tract. The conditions of absorption, however, are scarcely so favorable that a high degree of heterochthonic septicæmic fever could easily be produced. The etiology of the autochthonic septic fever is discussed at great length.

The first condition favorable for the development of a putrefactive process is death of the tissue; the next is the contact of the dead tissues, now no longer saturated with oxygen, with substances which ex-

cite putrefaction, with organisms which are scattered broadcast in the air in which we live. Every breath we breathe, probably, bears these organisms into the finer bronchial network of the lung tissue, every mouthful of food carries the same organisms into the stomach and intestines, where they are absorbed by the mucous surfaces.

The third condition for putrefaction is the presence of water. Dried tissues, even if long since dead and freely exposed to the air, break up and are destroyed, but do not putrefy.

All three of these conditions occur so frequently together in injuries and operations, says Hueter, that septicæmic fever ought to be the most frequent of wound diseases. Whether this theory corresponds to practice we can only decide by keeping in view the conditions in which the septic poison can be absorbed under ordinary circumstances. Does the septic poison existing in solution find its way directly into the bloodvessels? It very probably does, for Bergmann has demonstrated the diffusibility of the poison. Even if we imagine the poison in molecular form, or combined with the organisms which excite putrefaction, we must allow the possibility of a passage of these molecular organisms through the walls of the vessels, since we could not suppose them to be larger than white blood corpuscles.

The real route which the septic poison takes in its absorption is the lymphatic system, or rather those spaces in the connective tissue which, according to the latest investigations, are nothing else than the origin of the lymphatic vessels. The conditions for absorption are under these circumstances, of course, the more favorable the greater the pressure to which the septic fluids are subjected; which in practice is a fact of great importance. Such an increased pressure is produced by an inflammatory reactive swelling of the tissues, by constricting fasciæ, tendons, muscles and bones.

Hueter lays down as clinical symptoms of septicæmic fever:—

1. Foul-smelling pus—for laudable pus, according to the author, never smells, is perfectly inodorous; in fact, microscopical examinations show that in all pus that smells the excitors of putrefaction, the Monades and Vibriones, are to be found, while in inodorous laudable pus they are wanting.

2. The surface of the wound is generally œdematous and the surrounding tissues in an emphysematous condition, the color of the neighboring skin varying, red, brownish, greenish, &c. The size of the wound remains the same, or, as is often the case, the loss of substance continues, and often with great rapidity. This circumstance may have induced Maissonneuve to call such cases "gangrène foudroyante." After absorption of the poison the symptoms of general septicæmia appear.

3. As a rule, there is a sudden and continued increase of temperature. The pulse, at first very full and strong, becomes weaker towards the end; very considerable thirst and small appetite.

4. Chills do not generally occur in pure septicæmic fever.

5. The organs of sense are affected early. The patient becomes delirious, has little feeling in the wound; finally, sopor occurs, which is followed by death. Some cases run their course with symptoms of constipation, while in others most profuse choleraic dejections occur.

In regard to the course and progress of the disease, the author says that the majority run an acute course, and die mostly from the tenth to the twelfth day. If they take on a chronic character they may drag along for years. * * * * * *

B. Pyæmic Fever.—*Pyæmic fever is produced by the reception of the constituents of pus into the blood.*

He divides pyæmia, first, into an immediate, direct, and, second, into a mediate, thrombo-embolic, or into simple and metastatic pyæmia. He calls those cases simple pyæmia in which one focus of pus alone exists.

The history of this disease is treated in detail, and still more so the chapter on the experiments which have thus far been made. Experiments were instituted for the purpose of answering certain questions, in order to learn the action of pus and its constituents when it is introduced into the body.

Such positive results as have been obtained by these experiments may be summed up in the following:—

(*a.*) Fluid pus, injected into the veins of animals, does not produce metastatic inflammations. (O. Weber.)

(*b.*) Fever occurs regularly after the injection, and indeed very soon. (O. Weber and Billroth.)

(*c.*) Fresh pus has, in addition to pyrogenous, also phlogogenous peculiarities.

(*d.*) The pyrogenous and phlogogenous substances of pus are (in part at least) contained in the pus serum. (According to Billroth, the phlogogenous and septic poison found in pus is of molecular nature.)

(*e.*) Metastatic abscesses are produced

in the lungs by the introduction of fragments of animal tissue into the veins and their transportation into the branches of the pulmonary artery. The development of these abscesses is not caused by the simple plugging of the branches of the pulmonary artery. (Virchow.)

(*f.*) Finally, O. Weber has proved experimentally that capillary emboli, i. e. the introduction of very small emboli into the lungs, are also sufficient to cause the development of large abscesses, and that the emboli can pass through the lungs and yet catch in other organs, and there cause metastatic abscesses.

The most important pathological-anatomical change in pyæmia multiplex is the occurrence of metastatic abscesses in the lungs. (In pyæmia simplex there is no change to be seen.) Their development from detached vein thrombi (the embolus theory of metastatic abscesses), their much more seldom occurrence in the spleen, liver and kidneys, the development of the so-called hæmorrhagic infarction, are reviewed at length, with citations from the works of Virchow, Waldeyer, Billroth and Panum, and the author's own experience.

It would carry us, however, too far to follow the author into the details of this subject, and I will therefore merely mention that Hueter considers the metastatic inflammations of the joints, of the serous membranes, of the cellular tissue, and of the parotid gland, to be caused by the general inflammatory disposition. He arrives at this conclusion by a process of elimination only; for, in fact, we have to-day no satisfactory explanation for these metastatic inflammations and suppurations, which occur otherwise so rarely.

ON THE ACTION OF THE DIFFERENT PRINCIPLES OF THE BILE ON THE ORGANISM.

By MM. Feltz and Ritter. Translated by A. Sager.

The action of the different organic elements of the bile upon the economy has always attracted the attention of physicians, and various experimental essays have been made to resolve the problem. Yet we are not aware that any thorough and comprehensive efforts have been made in that direction.

We have essayed to fill this hiatus in physiological research in presenting herewith the result of two years of investigation. Time will not permit us to enter into the details of the methods pursued in our researches, and we regret the necessity of presenting only an aphoristic *résumé* of the results obtained. Hereafter we propose to publish a memoir on this subject, with all the necessary details.

Our experiments, some eighty at least in number, were made upon dogs, being careful always to procure a parity of physiological condition.

A. Action of the Salts of the Biliary Acids.

In the first series of experiments we employed the glycocholate and the taurocholate of soda, and a mixture of these salts in the proportion met with in the bile of the ox. We have ascertained that equal weights of these compounds yield very nearly the same results, only the influence of the quantity must be taken into very serious consideration. When introduced into the blood, these compounds are eliminated through the biliary secretion.

1*st. With small quantities.*—Injections of 4, 5 or 6 centilitres of liquid, containing 50, 60 or 70 centigrammes of either the glycocholate or the taurocholate, or a mixture of the two salts, at intervals of four days, caused after each experiment a depression of temperature of 1 or 2 degrees cent., a retardation of the pulse to one-fifth; frequently vomiting, sometimes slight nervous disturbance, but never any jaundice. The animals speedily recovered their normal condition, for all traces of the blood changes had disappeared in twenty-four hours. The urine contained no traces of either albumen or the coloring matter of the bile or blood; but indican was found in it. The urine was light, but contained a sufficient quantity of urea to yield an abundant precipitate of nitrate of urea, when treated with nitric acid.

2*d. With medium dose.*—Injections of 10 centilitres of liquid with 120 centigrammes of the biliary salts. Pulse and temperature as above, with convulsions and diarrhœa with sanguinolent dejections. The urine contained albumen with the coloring matter of the blood, but neither the acids nor the coloring matters of the bile; only occasionally indican was discovered. The animals recovered slowly; they refused to eat, but drank freely. Sacrificed on the fifth day, we discovered but slight modifications of the blood or of the liver. Neither the biliary acids nor coloring matters were revealed by an analysis of that fluid.

3*d. With large quantity.*—Injections of from 10 to 20 centilitres of fluid, containing from 2 to 4 grammes of the biliary salts,

were always followed, sooner or later, by the death of the animal, but always with the same symptoms—vomiting, retarded pulse, reduced temperature, epileptiform convulsions, various hæmorrhages, but no jaundice. The urine black, sanguinolent and albuminous, contained traces of the biliary acids, a little green coloring matter and indican.

The microscope enabled us always to discover in the blood acicular crystals of hæmatoglobulin identical with those obtained by mixing bile with a dog's blood, out of the body. We observed, also, in both cases, irregular granulations, whose appearance coincided with the solution of the globules, and the presence of albumen and hæmatin in the urine. An analysis of the blood the day following the injection revealed always a considerable quantity of the biliary acids, but when death was delayed these soon disappeared.

Conclusion.—The toxic action of the biliary acids appears to be abundantly demonstrated. It must, we think, be attributed to their solvent action on the globules of the blood. This action closely resembles that which our experiments have shown to result from the action of phosphorus and of arsenic.

B. Action of the Derivatives of the Biliary Acids.

1*st. Injections of the Cholate of Soda.*—The resulting phenomena closely approximate those of the preceding experiments, but the doses required were considerably larger, one gramme producing but a slight and transient effect. The urine contained very little of the coloring matter.

2*d. Injections of Choloidic Acid and of Dislysine in Alkaline Solutions.*—Two grammes of these compounds were twice injected, with some interval, without sensible result; the urine contained no albumen, but much urea and a trace of coloring matter.

3*d. Injections of Taurine.*—Four grammes of this substance injected excited no reaction.

4*th. Injections of Glycocoll.*—Four grms. of this likewise employed, with a like negative result.

C. Action of Coloring Matters.

Four (4) grammes of *bilirubine* injected in divided doses in alkaline solution, produced only constipation and a slight icteric teint of the conjunctiva, which faded away in 24 hours; the urine was alkaline and without albumen; abundant urea indicated by nitric acid; coloration doubtful. Indican appeared on the alternate days of the injection.

Three (3) grammes in a single injection yielded the same result, with the addition of a slight depression of temperature.

Eight (8) grammes of *biliprasine* injected in four doses produced obstinate constipation, subicteric teint; no albumen in the urine; very feeble reaction of coloring matters by nitric acid. Only after the fourth injection did indican appear. But even after the failure of nitric acid the presence of the coloring matters of the bile was shown by the use of a more delicate process.

A mixture of four grammes of *bilifuscin* and *bilihumine* behaved very like *biliprasine*; the urine yielded evidence of coloring matters by the nitric acid test. The blood was unchanged, and the substances introduced could with difficulty be detected.

D. Cholesterine.

The introduction of this substance in a form to prevent action as a foreign body by precipitation, gives rise to no serious accident. Cholesterine exerts therefore *per se*, no toxic action on the blood, but is capable of producing the phenomena of embolism. When the secretory action of the liver is arrested by injecting sulphate of iron in the ductus choledocus, cholesterine accumulates in the blood. We found more than three grammes per 1,000, while under normal conditions it yielded but 928 milligrammes.

E. Ligature of the Bile Duct.

Ligature of the ductus choledocus gave rise to very grave disorders. The animal always succumbed. The symptoms were both of a local and general character, the former due to the traumatism and the peritonitis, and the latter exhibiting in a marked degree the symptoms produced by the injection of the biliary salts. In both cases the blood changes were quite manifest. The microscope revealed the presence of acicular crystals of the hemato-globulin, as well as the granules before mentioned; chemical analysis enabled us to detect variable proportions of the bile salts, while the normal blood, as previously ascertained by the process of Newcomm, contained not a trace of them. The fatty matters were augmented, but the bile pigments not accurately determined. On the second day the urine contained albumen; on the fourth we detected the presence of hemato-globulin by the spectroscope, while but twice did we observe slight traces of the biliary acids.

To enumerate in this place the cases in

which we have found chemical confirmation of the data furnished by these experiments would require more time than we can devote to it at present. They will be indicated in a future memoir containing all the details relative to these researches.—*Jour. de l'Anat. et de Phys. Mich. Univ. Med. Jour.*

DEATH FROM CHLOROFORM.

We make the following selection from the proceedings of the Cincinnati Academy of Medicine, Oct. 17, 1870, as reported in the Philadelphia *Medical and Surgical Reporter*.

Dr. W. W. Dawson reported a case under his charge at the Cincinnati Hospital, of death from chloroform.

Bridget Henry, æt. 30 years; housewife. Had hæmatodes of the foot, and after a consultation Dr. W. proceeded to remove the foot by Syme's operation. Just as the foot was removed, the alarm was sounded that respiration had ceased. All of the usual means of resuscitation were resorted to without avail. About 75 minims of chloroform were used in all. Autopsy showed fatty degeneration of the heart.

Dr. Dawson then remarked upon the general good condition of the patient at the time of operation. There was no irregularity of the pulse. Her previous history disclosed a rather irregular life, and she stated that she had once had dropsy.

Dr. D. further remarked upon the severity of her suffering, and the justification of the operation, and spoke of the comparative ease with which she passed under the influence of chloroform, and of its mode of administration, stating that it was not more than three minutes before danger was proclaimed. The death was sudden; there was no stertor nor gasping. The cessation, as noticed by the resident physician administering the drug, was sudden and complete. From these facts he regarded it as a death by paralysis of the heart.

Dr. D. then spoke, in detail, of the various alleged causes of death, and reports three other cases as having occurred in this city.

The first was a lady in the office of Drs. Meredith and Sexton, Dentists. This occurred in 1848.

The second occurred in the practice of Dr. Krause, an oculist of this city, in 1860.

The third in the Cincinnati Hospital, in a patient of Dr. T. Wood, being operated on for fistula in ano.

The present, the fourth, is the fourth in Cincinnati since 1848, the period of its (chloroform) introduction here.

Dr. D. further mentions the details of some five or six other unpublished cases in this vicinity made known to him, and concludes with expressions of the profound sorrow which the unfortunate operator experiences in all such cases.

Dr. Ludlow reports an additional death as having occurred in the hands of Dr. Blackman at the Cincinnati Hospital, in a case of abscess of the thigh. Chloroform was given in a sponge.

Dr. Carson considered this patient (Dr. Dawson's) as having been in a vulnerable condition from the great amount of pure fat everywhere, and from the extent of the local fatty degeneration, and speaks further of the fluidity of the blood as indicative of nervous depression.

Dr. Muscroft advocates the practice of administering food previous to the inhalation of chloroform, as the system is better fortified; even if vomiting ensues the danger is not so great.

At a subsequent meeting of the Academy (Oct. 24th, 1870) the discussion on chloroform was continued.

Dr. Thornton spoke of the melancholy character of a death by chloroform, not only from the loss of life, but from the danger to the reputation of a valuable remedy. The great physician is he who carefully selects his cases. The speaker was surprised to hear that gentlemen did not think it necessary to examine cases thoroughly before administering chloroform.

He thinks it now a settled fact that death occurs either from the heart or lungs, and a careful analysis of their condition would often preclude an accident. A quotation from Sansom was cited to this effect.

Dr. Stuart, of Fayette county, Ohio, was here introduced by Dr. Dawson. He reported the case of Mrs. Garrus, to whom chloroform was administered in a dentist's office by Dr. Wilson.

She had frequently taken chloroform in labor when attended by Dr. Stuart, and always with safety. On this occasion she was not brought under the full influence of the drug. After the extraction of the tooth her head fell to one side, the pulse became rapid, small and quick, and the breathing stertorous. She was immediately removed to a sofa, where, in spite of all the usual efforts at reanimation, death speedily ensued.

Dr. Stuart also reports the case of a boy whose arm was mutilated by machinery. At first, on account of the evident collapse

of the patient, he refused to administer chloroform. Having employed a few drops carefully, and ascertained that the pulse gained in force and tone, he proceeded to full anæsthesia, and the amputation of the arm was successfully performed.

Dr. C. O. Wright spoke of the interval which elapsed between the administration of the chloroform and death in the case of Dr. Wood. Dr. W. made some remarks upon the vitiated atmosphere of hospital amphitheatres, a circumstance apparently neglected in this discussion. In army practice, where the drug was mostly given in the open air, and often recklessly administered, no case of death, to his knowledge, had been reported.

Dr. Gobrecht denied that it was administered in the service without due precaution. In this he was corroborated by Dr. Conner, who said that there are at least eight cases of death on record at the office of the Surgeon-General. Dr. C. further spoke of the increased liability to death from habits of intemperance; probably from fatty degeneration of the heart.

Dr. Unziker spoke of the impurity of the chloroform used as, perhaps, a frequent cause of death. He stated that Squibb's was the best.

Dr. Dawson stated that Squibb himself lost a case a few days ago with his own preparation.

Dr. Gobrecht spoke of some experiments having been made by Dr. Boynton in a scientific lecture. It was there shown that ether contains oxygen as one of its ingredients; when decomposed in the blood this would be eliminated. Chloroform was considered more dangerous as containing no oxygen.

Dr. Dawson spoke of the various modes of administering chloroform, and remarked that death had occurred in all. He urged the necessity of the closest attention on the part of the administrator.

Dr. Muscroft claimed that organic disease of the heart could not be a contraindication to the use of chloroform, as the late Dr. George Fries, who died of heart disease, was in the habit of inhaling it frequently with impunity. He would place a small quantity on the corner of a towel—insert it into the mouth and slowly inhale it—until narcosis ensued.

Dr. Thornton claimed that we do possess valuable knowledge as to the cause of death. It is either from paralysis of the heart or suppression of respiration. Dr. T. spoke of the immunity from danger in labor cases, as explicable by the increase of the circulation pre-existent, which prevents an arrest of the heart's functions. Valvular disease is not so much a contraindication as fatty degeneration, which impairs the heart's power. This condition, too, is not of very difficult recognition.

Dr. M. B. Wright spoke of the various modes of death as being founded on mere speculation. It was impossible to predict where it will prove dangerous. Dr. W. spoke of the idiosyncrasies of many patients to its action, and referred to a case of puerperal eclampsia, in which its first effects were attended with dangerous manifestations, while afterward under its continued administration the convulsions entirely ceased. Dr. W. concluded by remarking, that, use all the precautions we may in administration and diagnosing our cases, occasionally we would lose patients by the administration of chloroform. It looked hard to come to this conclusion, but he recognized it as a fact, and did not hesitate to express his convictions.

Dr. Dawson remarked upon the internal and external methods of inducing anæsthesia. The external as by ether spray is of limited application, as Richardson, its inventor, admits. A few years ago, however, a surgeon in Baltimore performed ovariotomy under this means, and, as is claimed, without pain. It has been found, however, of limited range.

The statistics of death by chloroform internally are appalling. A gentleman from Chicago states that he has collected cases of death by ether, one in 23,000; by chloroform, one in 2,800; and of the mixture of the two, one in 6,000.

Richardson's statistics from eight or ten provincial hospitals, show, up to 1864, 17,000 cases exhibited without a death; from 1864, 7,500 cases and eight deaths. From all sources death averages one in 3,500 cases.

Dr. D. spoke at length respecting the various modes of its administration, remarking that it is claimed that deaths are about equal in all. As to the predisposition, which a fatty heart favors, as intimated at the last meeting, the difficulty of its recognition is shown by the fact that symptoms of the most opposite nature are alleged as characteristic of the disease; as to the immunity secured by food taken before the drug is administered, the speaker remarked that it is only the food which is already digested, which can be of use in fortifying the system. At least three hours should intervene between taking the food and administering the chloroform.

Medical and Surgical Journal.

Boston: Thursday, March 30, 1871.

CONSERVATISM IN ARMY SURGERY.

The editorial columns of a recent number of the London *Medical Times and Gazette* contained statements bearing upon the relative advantages of amputation at the shoulder-joint and excision of the head of the humerus in military practice. The writer believed that the doubts which had been entertained and expressed by eminent American surgeons as to the propriety of conservatism in cases permitting consideration, were met by the results attained by the army surgeons, as shown by the statistics published in Circular No. 6, Surgeon-General's Office, and says:—

"It is creditable to the surgery of that war that resections were more numerous than the complete amputations of the shoulder-joint—575 instances of the former operation and 458 of the latter have been recorded. * * * * In 36 instances of gun-shot fracture of the head of the humerus selected as favorable cases for the expectant plan and treated without excision or amputation, 16 died, or 44·4 per cent., a ratio in favor of excision of 11·9 per cent."

The writer could not have been aware that many of the largest army hospitals would compare favorably as to professional attendance, hygienic influences and supplies with some of our best civil hospitals, and in no respect differed from them save that the latter were not under military control. In some, the attendance was from gentlemen who held appointments in both military and civil hospitals, and there was hardly one of the latter in the country that did not have its representatives in general hospital if not in field service. This fact is too important to be overlooked, for it certainly must have had an influence in lessening the mortality after operations, and the success of excisions under these circumstances was admitted and so expressed by one of the authorities quoted by him as in favor of the more radical treatment. In reference to the cases treated by the expectant plan, he states the ratio in favor of excision, but does not add that in favor of amputation, which was 5·16 per cent. We believe that reliance has been placed upon the statistical information contained in the Circular to the exclusion of a just consideration of the conditions under which the results were obtained. As corroborative of the above, we append an extract from the concluding observations in the report on excision of the head of the femur, published in Circular No. 7, a more recent issue:—

"If the question as to the most eligible treatment was susceptible of a purely arithmetical solution, it might readily be computed that in eighty-five cases of excision the mortality was 90·6 per cent.; that in one hundred and eighty-three amputations it was 90 per cent., while one hundred and twenty-two cases, treated on the expectant plan, gave a fatality of 93·4 per cent., and concluded dogmatically that operative interference was always indicated, and that amputation was preferable to excision. But the variety of the conditions under which these patients were placed, the diversity in the extent of their injuries, and the inevitable imperfection of all surgical records, forbid any such rigorous comparison. In order to attain just conclusions it is necessary to analyze the different categories of injuries, to weigh the opinions of careful and candid observers, and to avoid an undue reverence for naked numerical returns."

NAVAL RANK—THE QUESTION FINALLY DISPOSED OF.

At last the conference committees of the two Houses, after much discussion, adopted a series of resolutions which establish the position of the staff officers. The bill has passed, and is now a law. We understand that it is perfectly satisfactory to both line and staff officers in the Navy. It is as follows:—

"The Medical Corps is to consist of fifteen medical directors, who shall have the relative rank of captain; fifteen medical inspectors, who shall have the relative rank of commander, and fifty surgeons, who shall have the relative rank of lieutenant commander. All of the foregoing to have the present pay of surgeons. Passed assistant surgeons, who shall have the relative rank of lieutenant or master, and one hundred assistant surgeons, who shall have the relative rank of master, with present pay and emoluments of assistant surgeons, provided

that assistant surgeons of three years' service, who have been found qualified for promotion by a medical board of examiners, shall have the pay of passed assistant surgeons, as now provided, and that no person under twenty-one or over twenty-six years of age shall hereafter be appointed an assistant surgeon. * * *

"The staff grades above mentioned shall be filled by appointment from the highest members in each corps, according to seniority, and new commissions shall be issued to the officers so appointed, in which commissions the titles and grades shall be inserted, and no existing commission shall be vacated in the said several staff corps, except by the issue of new commissions, and no officer shall be reduced in rank or lose seniority in his own corps by any change which may be required under the act; and the officers of the medical, pay, and engineer corps of the navy, chaplains, and naval constructors shall take precedence in their several corps, and with officers of the line with whom they hold relative rank in their several grades, and according to length of service in the navy: *Provided*, That in estimating the length of service for this purpose, the several officers of the medical, pay, and engineer corps, chaplains, and the naval and assistant constructors, shall respectively take precedence in their several grades, and with those officers of the line of the navy with whom they hold relative rank, who have been in the naval service six years longer than such medical, pay, or engineer officers, chaplains, or constructors have been in said service: *And provided further*, That in estimating such length of service officers who have been advanced or lost numbers on the navy register shall be considered as having gained or lost length of service accordingly: *And provided further*, That chiefs of bureaus shall be appointed from persons having the relative rank of captains in the staff corps of the navy on the active list: *And provided further*, That no staff officer shall, in virtue of his relative rank or precedence, have any additional right to quarters. Officers of the medical, pay, and engineer corps, chaplains, and also constructors, who shall have served faithfully for forty-five years, shall, when retired, rank with commodores; and officers of these several corps, who have been or shall be retired at the age of sixty-two years, before having served for forty-five years, but who shall have served faithfully until retired, on the completion of forty years from their entry into the service, shall also from that time rank with commodores and officers of the medical, pay, and engineer corps; chaplains and also constructors, who have been or shall be retired for causes incident to the service, before arriving at sixty-two years of age, shall have the same rank on the retired list as pertained to their position on the active list: *Provided, however*, That nothing shall be construed to increase the pay now provided for said several staff officers. The chiefs of the bureaus of medicine and surgery, provisions and clothing, steam engineering, construction and repair, shall rank with commodores while holding said position, or if heretofore or hereafter retired therefrom by reason of age or length of service, they shall rank with commodores, with pay as now provided by law, and shall have respectively the title of surgeon, general paymaster, general engineer in chief, and chief constructor: *Provided*, That when the office of chief of bureau is filled by a line officer below the rank of commodore, said officer shall rank with commodores during the time he holds said office: *And provided further*, That the pay of chiefs of bureaus in the Navy Department shall be the highest pay of the grade to which they belong, but not below that of commodore. It is expressly provided that commanding officers of vessels of war and of naval stations shall take precedence over all officers placed under their command, and that the Secretary of the Navy may, in his discretion, detail a line officer to act as aid or executive to commanding officers of vessels of war and of naval stations, who, when not impracticable, shall be next in rank to such commanding officers, and who, while executing the orders of the commanding officer on board such vessel or at such station, shall take relative rank over all officers attached to such vessel or station, and orders of such executive officer shall be regarded as proceeding from the commanding officer, provided that such executive officer shall have no independent authority in consequence of such detail, and that a staff officer superior in rank to such detailed officer may communicate directly with the commanding officer.

There is also a section providing that on courts martial, courts of inquiry, &c., line and staff officers shall take precedence according to rank.

Another section provides that an officer who has served as the chief of a bureau shall not go to sea again.

Chloroform Poisoning.—After this week we shall not publish the details of these frequently-occurring cases which may appear in other journals, but merely give the name and date of the journal where they may be found.

French Surgery during the Siege.—So far as I can learn, the French surgeons in the early days of the siege, when the conditions were favorable, were earnest in the pursuit of conservative surgery. One of the leading advocates for this system has been Dr. Mosetig, of Vienna, attached to the international society's organization, and he had great success, especially in the early days of the siege. But as that siege progressed, times changed. Circumstances became unfavorable to the recovery of wounded men under any surgical conditions; wards became impregnated from long use with hospital taint; rations were bad; the men were physically "bad subjects." True, it was possible still in some favored lazarettes to pursue conservative surgery. There ventilation was good; patients were comparatively sparse; there was a large allowance of cubic space of air; and the attendants spared no pains to destroy any mysterious taint so noxious after operations. A most favorable example of a pattern lazarette is that kept up by Mr. Wallace, and supervised by Dr. Cormac, where the sanitary conditions were maintained in thorough efficiency with hardly any regard to expense. But all the receptacles for the wounded manifestly could not share this good fortune. There were crowded and long-occupied wards, generating pyæmia, gangrene and erysipelas; there were overworked orderlies; and there was food of a character inevitably tending to the impoverishment and vitiation of the blood. These conditions presented but a poor field for the successful practice of conservative surgery. Let me take two examples of conservative surgery, operations for success in which one of the most distinguished of our British surgeons, Sir William Fergusson, is justly celebrated. I refer to the excision of the knee and elbow-joints, and the establishment of a juncture between the parts on either side of the excised joints. The value of such an operation successfully consummated is immense; and, under favorable conditions, with skill in the operator, a fair bodily condition in the patient, and sedulous after-attention, such an operation is successful in most cases to a pitch of which our ancestors did not dream. But when the ward is malarious with those taints which poison raw flesh-surfaces; when the patient is both low in habit at the time of the operation, and good nourishment is not afterwards obtainable; and when the dressing and attendance is not scrupulously careful, it is obvious that the circumstances are altered. The surgeon has to consider the practicability of diminishing the risk to the lowest possible minimum. When he excises a joint and attempts a juncture, he has two flesh surfaces patent to the taint; the dressing is complicated, and the demand on the vital energy that stimulates the healing power is probably larger. On the other hand, when he amputates he exposes but one surface, and the other risks are smaller in every way. It was by argument based on these facts that toward the end of the siege conservative surgery was gradually abandoned, except in very favored localities. I fear the success of the operating surgeon has been in no case encouraging. It is hardly in the nature of things that it should have been so. When scientific men give to the world the results of their surgical experience of the siege of Paris, the communication cannot fail to be interesting and instructive. From all that I can learn, matters would have been worse than they have been, had not all the victualling, medical and surgical arrangements been in professional hands, instead of being left to the Intendance. Probably in the history of modern organizations there is no greater instance of stupendous and abject failure than the French Intendance. If it failed miserably in its obligations to the fighting-men, it is not to be thought that its functions would have been more efficiently performed in attending to the sick and wounded. This war has snuffed out the French Intendance. If there are any adaptations or copies of it in other countries, let their administrators take warning by the abject collapse of their pattern.—*London Daily News.*

Deaths from Chloroform.—Dr. Blodig, Prof. of Opthalmology at the Eye Infirmary at Gratz, relates an interesting case of death under chloroform. The subject was a lad, aged 11, who, two or three weeks before, had wounded his eye with a knife, giving rise to cataract and dislocation of the lens, together with adhesion of the inflamed iris. It was resolved to remove the lens and perform iridectomy, and, with this intention, chloroform (the good quality of which had been tested in numerous other

cases) was administered, about two drachms being employed. The operation required more than usual care and time, owing to the constant movement of the head on the part of the patient. While the dressing was being applied, the lad was observed to make several rapid respirations, and then to cease breathing. The pulse could not be felt, and the pupil of the other eye was unusually dilated. Artificial respiration and various other means were resorted to, with the effect, at first, of restoring some respiratory movements at longer or shorter intervals, the pulse also being felt again weakly beating, and the face recovering some of its color. A collapse then suddenly set in, and, after three-quarters of an hour further effort, all hope was abandoned. A post mortem, carefully performed, failed to exhibit any peculiarity. Prof. Blodig thinks that the following points are noteworthy in the case: 1. The small quantity of the chloroform used. 2. The incompleteness of the narcosis produced, as evidenced by the freqent movements of the head during the operation. 3. The continuance of respiration after the completion of the operation, and certainly six or eight minutes after the cessation of the inhalation. 4. The return of deep inspirations and the color of the face and lips during the attempts at reanimation. 5. The absence of any explanatory appearance at the autopsy. —*London Med. Times and Gazette*, Feb. 25, 1871, p. 126.

Death from Chloroform in the Edinburgh Royal Infirmary.—We regret to announce a death from chloroform in the Royal Infirmary on Friday of last week. The patient had been admitted under the care of Dr. Gillespie for dislocation at the shoulder-joint, which was being reduced when the fatal occurrence took place. At the examination which was made after death, no organic lesion of any organ was discovered. This is, we believe, only the second death from this cause which has occurred in the Infirmary since the introduction of chloroform.—*Brit. Med. Jour.*, Mch. 11, 1871.

Fracture of Neck of Femur, with Inverted Foot. By A. S. Hudson, M.D., Stockton, Cal.—Some years ago, while I was teaching medicine in the Iowa University, a man was brought to the infirmary of that institution, disabled. He was not fleshy, but compact and muscular. Overburdened by intoxication, he had fallen down a flight of stairs.

On examination, the left foot was found lying across the right instep, the toe strongly inverted, knee slightly bent, and the leg immovably fixed on the hip, with little or no shortening. The first diagnostic thought was a fracture of the neck of the femur; but the position and direction of the limb, and its immobility, led my colleagues and myself to the conclusion it was a dislocation. But, then, where was the head of the bone? None could tell. It could not be found. However, in profound uncertainty, we resolved to make an effort to reduce a suspected dislocation.

The patient under chloroform, and the pulleys well applied, firm traction was made; whereupon the limb straightened, with extra freedom of motion, and disclosed unmistakable crepitus, with a tendency to eversion of the toe. The difficulty was solved. It was now plainly a case of fracture of the neck of the femur, with impacted fragments. The impaction simulated certain features of dislocation, and concealed decisive evidence of fracture.

The chief object of this communication is not to give information, but as a contribution to surgical records, to report a case of this fracture presenting marked *inversion* of the toe. Hamilton says: "In sixty cases of fracture of the neck seen by Cloquet, the foot was never turned in; and Boyer never met with an example in all his immense experience; but Langstaff, Guthrie, Stanley, and Cruveilhier, have each seen one example;" and Hamilton one.—*Pacific Med. and Surg. Jour.*

To the above account of a very rare lesion, we would add that Dr. Bigelow, in his work on "The Hip" (p. 128), gives an interesting description of a case observed by him, and verifies his diagnosis with a plate representing the condition of that portion of the bone involved by the fracture after union had taken place.

From the Report of the Resident Physician of the Massachusetts General Hospital, for the year 1870, we learn that the number of patients admitted to the hospital from January 1, 1870, to January 1, 1871, was 790 males, 512 females—total, 1302. Discharged during the year—well, 780; much relieved, 120; relieved, 183; not relieved, 65; not treated, 68; dead, 85; insane and eloped, 16. Total, 1317. Proportion of deaths to the whole number of results, 6.45 per cent. Number of patients received on account of accident, 140.

Eight thousand seven hundred and sixty-seven (8,767) persons have been treated as

out-patients, not remaining in the hospital, but receiving advice, medicine, surgical attendance, and dental treatment. Of these, 4,781 were medical cases, and 2,192 surgical. 638 were treated for skin diseases; 170 for fractures and dislocations; 158 for lacerated and incised wounds; 201 for abscess; 93 for felon; 33 for hernia; and 203 for contusions and sprains. 3,905 were males; 4,862 were females. 4,545 were Americans; 4,222 were foreigners. 5,937 were residents of Boston; 2,830 of other places near the city.

A Vehicle for the internal Administration of Chloroform. By G. W. Murdock, M.D., Cold Spring, N. Y.—The want has been felt by many physicians of a good vehicle for the internal administration of chloroform. Several formulæ have been devised to meet this, but none, that I have seen, do so perfectly. Some are of difficult preparation; others contain sulphuric ether, which is objectionable, and all contain too little chloroform for convenience.

I have lately been using a solution of chloroform in glycerine, which answers the purpose so completely as to leave little to be desired. By a little care in rubbing it up, one part of chloroform by bulk can be dissolved in three of glycerine. This solution is perfectly clear, is bland to the taste, and has but a slight odor of chloroform.

As glycerine is acceptable to almost every stomach, it admits of a wide range of application. It can be taken readily as it is, or can be diluted with water to any extent, without disturbing the solution. Curiously enough, the addition of water immediately increases the smell of chloroform without any precipitation of it. In preparing it, it is best to take one part of chloroform with two parts of glycerine, add the chloroform very slowly, and rub up carefully. Then put it in a bottle, and let it stand twenty-four hours. A little chloroform will have deposited at the bottom. Separate this, and rub it up with the third part of glycerine, then mix it with the rest, and the solution is complete. No further separation will take place. Six ounces of glycerine with two of chloroform will give seven fluidounces of the solution, so that each fluidrachm contains about seventeen M. of chloroform.

From the faint odor of the prepared solution I judge that the glycerine protects it almost entirely from evaporation, although some slight loss may occur while preparing it, which it is well to make allowance for.

I have used only Squibb's chloroform and pure article of glycerine, and cannot say how inferior grades may answer.

Having used it in a large variety of cases with entire satisfaction, I can confidently recommend it to others.—*American Jour. of Pharmacy.*

Almost complete Severance of the Body without a Break in the Skin.—R. A., aged nineteen, a telegraph clerk, was seen near Camden Road Station at 11.50 on the night of Saturday, June 26th. He was then sober, had over two pounds of money in his possession, and stated his intention of going to Euston Square by the 11.56 train. Although he was known to the officials, and there were very few passengers, no one saw him get in at Camden Road, or get out at Euston Square. The ticket-collector also said that he should have recognized him at once had he been in the train. The train after discharging at Euston, was backed into a shed; and, as two shunters, who had performed this duty, were returning along the line which the train had just passed over, they found R. A. lying on his back just inside the station, straight across the outer rail, with his head between the rails, and his hat tilted over his eyes. He was alive when found, but died in a few minutes. The body was at once brought to University College Hospital. It was clothed in a long jacket, waistcoat, and trousers, of thick, coarse cloth, on which the marks of the carriage-wheels were plainly visible. Only a few pence were found in his pockets. There was not the smallest wound on the body, and only a few abrasions of cuticle across the abdomen. After some hours, pretty extensive ecchymoses appeared. On opening the abdomen, all the abdominal muscles were found completely cut through horizontally, retracted, and curled up, leaving a gap five or six inches wide. The back muscles were in the same condition. The right kidney was cut in half. The transverse colon and a large piece of the ilium were lying free in the abdomen; and the body of the third lumbar vertebra was crushed literally to powder; everything was divided except the skin. The rest of the body was healthy.—*Medical Times.*

A modified Operation for Varicocele.—Dr. Dubrueil proposes *(Bull Gén. de Thérap.)* a modification of Vidal's operation of twisting the veins by means of silver

wires in varicocele *(enroulement)*, by which he thinks that clots are formed and danger of phlebitis avoided. He proceeds in the following manner. Instead of using two silver wires, as Vidal directs, he uses one of silver of considerable strength, and another, much thinner, of platinum. These being passed so as to enclose the veins, he makes the usual twist; then he places the two ends of the platinum wire in the clamps of Gréne's pile, as near as possible to the integument, and the wire being heated, cauterizes the veins. Then he fixes the ends of the wires in the usual manner. M. Dubrueil uses one platinum wire in preference to silver, as the former requires less strength of the battery than the latter, and there is some difficulty in heating the wire, as it is bathed in blood. M. Dubrueil reports the case of a young man who was thus treated for a varicocele, and states that the pain was not greater than in the ordinary operation. At the end of eight days the wire was withdrawn, and the cure was effected in three weeks.—*Medical Gazette.*

Cantharidinate of Potassa.—In a recent number of the *Journal de Chimie Médicale* M. Delpeche calls attention to the defects of the ordinary preparations of cantharides; the proportion of the active agent, or cantharidin, varying, the presence of fatty or oily substances sometimes causing the absorption of a dangerous poison, and the rosin or turpentine employed in the composition of the plaster being an unnecessary irritant. In place of this he recommends the *cantharidinate of potash*, which is of very stable composition—has no odor, and possesses a vesicant action in a high degree. He recommends, as the best formula for the plaster, gelatine, 2.09 parts; water, 10 parts; alcohol, 10 parts; cantharidinate of potash, 0.20 parts; glycerine, 9.05 parts. The mass should be equally spread on thin gutta-percha, a definite quantity being present in each square inch.—*Medical Record.*

Dr. Thudicum's Experiments on Urine.—Proust obtained acetic acid from urine. It was also obtained by Liebig from putrid urine, and believed by him to be a product of decomposition of the coloring matter. Dr. Thudicum does not only enumerate acetic acid as a product but also formic. Formic acid, he says, has repeatedly been found to be an ingredient of human urine, but it had been declared an accidental product of the intentional ingestion into the stomach of certain substances, which, by decomposition in the economy, yield that acid. The author then describes the process by which he gets a pitchy resin, urochrome left in a retort, the distillate from which contains the volatile acids:—hydrochloric, benzoic, acetic and formic. The author found a difficulty in separating the formic and acetic acids. In short, the process of fractional crystallization failed entirely to yield any pure product after the preponderance of acetic acid had ceased, and even the use of alcohol did not effect that neat separation of formiate (insoluble) from the acetate (soluble in alcohol), which is advised in handbooks, as if it were a fact. The acetate was found to hold the formiate in solution even in alcohol, or to fall with it from more concentrated solutions. The barium salt was tried with a similar result; barium acetate and barium formiate are isomorphous, and cannot be separated from each other by crystallization in mixtures, in which the atoms of formiate rise to more than one-third of the amount of atoms of the acetate.—*Dublin Press and Circular.*

The Alumni Association of the Medical Department of the New York University.—The Executive Committee of the Alumni Association of the Medical Department of the University of the City of New York purpose the publication, at the earliest possible date, of a complete catalogue of the graduates from that institution since its foundation. The records of the Faculty having been destroyed in the burning of the college building some years ago, this project is one that should be seconded by every one of the alumni, of whom between two and three thousand are scattered throughout the United States. It is earnestly requested that each of these will without delay forward for enrolment his full name and post office address, with his professional history, including date of graduation, posts of honor and trust held, &c., and also any information which he may possess concerning former class-mates who have since died or retired from practice. Communications should be addressed to the Secretary, Chas. Inslee Pardee, M.D., 72 West 35th street, New York.

According to Dr. Julius Sander, of the Royal Charity, Berlin, *emboli* and *thrombosis* frequently give rise to aphasia.

Medical Miscellany.

TO A YOUNG PHYSICIAN.

By John G. Whittier.

The paths of pain are thine. Go forth
With healing and with hope:
The suffering of a sin-sick earth
Shall give thee ample scope.

Smite down the dragons fell and strong,
Whose breath is fever fire:
No knight of fable or of song
Encountered foes more dire.

The holiest task by heaven decreed,
An errand all divine,
The burden of our mortal need
To render less is thine.

No crusade thine for cross or grave,
But for the living man.
Go forth to succor and to save
All that thy skilled hands can.

Before the unveiled mysteries
Of life and death, go stand
With guarded lips and reverent eyes,
And pure of heart and hand.

So shalt thou be with power endued
From Him who went about
The Syrian hill-paths, doing good
And casting devils out.

That holy Helper liveth yet,
Thy friend and guide to be;
The Healer by Gennesaret
Shall walk the rounds with thee!

[*Theodore Tilton's Golden Age.*]

The National Medical Meeting.—The meeting of the American Medical Association will take place in San Francisco, on Tuesday, May 2d. Subjoined is the arrangement for travel, as already announced in a former number: From Chicago to San Francisco, going and returning, for accredited delegates and their families, half-fare. By steamer, *via* Panama, a reduction of one-third will be made from the first-cabin fare. The arrangement will be in force for sixty days before, and thirty days after, the meeting.—*Pacific Med. and Surg. Journal.*

Hospital Appointment.—We are pleased to learn that our cotemporary, Dr. Dawson, of the *American Journal of Obstetrics and Diseases of Women and Children*, has been appointed one of the attending physicians of the New York State Women's Hospital.

The coroner's jury yesterday returned a verdict, at Westfield, that the death of Mrs. Fredrich Kurtz was caused by abortion procured by Dr. G. G. Tucker, a respectable physician of that town.

In recording the above, from the *Boston Post*, we hope that Dr. Tucker, who is a member of the Massachusetts Medical Society, will be able to justify his action.

Testing the Purity of Hydrate of Chloral.—The purity of hydrate of chloral may, it is said, be tested by means of a concentrated solution of potash. The pure hydrate does not color this at all, or at most only a feeble yellow, and gives forth the pure smell of chloroform. Should the liquid assume a brown color, and the smell of chloro-acetic acid be combined with that of chloroform, or should gases of a pungent odor be developed, which is not seldom the case, the product is impure and unfit for use.—*Med. and Surg. Reporter.*

Books and Pamphlets Received.—Minnesota as a Home for Invalids. By Brewer Mattocks, M.D., President of the Board of Health, St. Paul, &c. Pp. 200. For sale by James Campbell, Boston.—The Wasting Diseases of Infants and Children. By Eustace Smith, M.D. London, &c. Second American Edition. Philadelphia. Pp. 266. For sale by James Campbell, Boston.—Insanity and its Treatment: Lectures on the Treatment, Medical and Legal, of Insane Patients. By G. Fielding Blandford, M.D. Oxon., &c. With a Summary of the Laws in force in the United States on the Confinement of the Insane. By Isaac Ray, M.D. Philadelphia. Pp. 471. For sale by James Campbell, Boston.—Catarrhal and Croupous Inflammation of Mucous Membranes. By Samuel G. Armor, M.D., Professor of the Principles and Practice of Medicine, &c., in Long Island College Hospital, Brooklyn, N. Y. Pp. 12.—Transactions of the State Medical Society of Michigan, for the year 1870. Pp. 150.—Anæsthetics. By Edward Squibb, M.D., of Brooklyn, N. Y. Read before the Medical Society of the State of New York. Pp. 30.

Married,—In Auburn, N. Y., 23d inst., Dr. Francis H. Brown, of Boston, to Mary S., daughter of Charles G. Wood, of A.

Died,—At Charleston, S. C., 3d inst., John T. Cole, M.D., of Newburyport, a member of the class of 1860, Harvard University, 29 years 10 mos.—In South Boston, March 21, Sarah Frances, wife of Dr. John S. H. Fogg.

Deaths in eighteen Cities and Towns of Massachusetts for the week ending March 25, 1871.

Cities and Towns.	*No. of Deaths.*
Boston	80
Charlestown	8
Worcester	11
Lowell	18
Milford	4
Chelsea	3
Cambridge	6
Salem	10
Lawrence	12
Springfield	2
Lynn	9
Gloucester	4
Fitchburg	5
Newburyport	4
Somerville	3
Fall River	10
Haverhill	2
Holyoke	4
	195

Prevalent Diseases.	
Consumption	44
Pneumonia	21
Scarlet fever	11
Croup	8

George Derby, M.D.,
Secretary of State Board of Health.

Deaths in Boston for the week ending Saturday, March 18th, 80. Males, 48; females, 32. Accident, 2—apoplexy, 1—aneurism, 1—inflammation of the bowels, 2—bronchitis, 3—congestion of the brain, 1—disease of the brain, 6—cholera infantum, 1—consumption, 17—convulsions, 2—croup, 2—debility, 1—dropsy of the brain, 1—scarlet fever, 5—typhoid fever, 1—disease of the heart, 7—congestion of the lungs, 4—inflammation of the lungs, 6—marasmus, 3—neuralgia, 1—old age, 4—paralysis, 1—peritonitis, 1—puerperal disease, 1—scrofula, 1—disease of the spine, 1—tumor, 1—unknown, 3.

Under 5 years of age, 25—between 5 and 20 years, 9—between 20 and 40 years, 20—between 40 and 60 years, 11—above 60 years, 15. Born in the United States, 51—Ireland, 21—other places, 8.